REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 3, 5-6 and 8-13 are pending in this application. Claims 1, 9 and 10 are amended by the present amendment. Support for the amended claims can be found in the original specification, claims and drawings.[1] No new matter is presented.

In the Office Action, Claims 1, 7-9 and 13 are rejected under 35 U.S.C. § 103(a) as unpatentable over Onoe et al. (Computer Communications, vol. 21, no. 14, XP-004146583, pp. 1226-1243 "Media Scaling Applied to Multicast Communications", September 15, 1998, Onoe) in view of Lundby (U.S. Pat. 6,856,604, Lundby) and Sato et al. (U.S. Pub. 202/0003798, Sato); Claims 3, 5, and 6 are rejected under 35 U.S.C. §103(a) as unpatentable over Onoe in view of Lundby, Sato and Hundscheidt et al. (U.S. Pub. 2002/0085506, Hundscheidt); and Claims 10-12 are rejected under 35 U.S.C. § 103(a) as unpatentable over Onoe in view of Lundby, Hundscheidt, and Sainio et al. (U.S. Pat. 6,549,541, Sainio).

The Office Action rejected Claims 1, 7-9 and 13 under 35 U.S.C. § 103(a) as unpatentable over Onoe in view of Lundby and Sato. In response to this rejection, Applicants respectfully submit that independent Claims 1 and 9, as amended to incorporate the features of Claim 7, recite novel features clearly not taught or rendered obvious by the applied references.

Amended independent Claim 1, for example, recites a communication system for transmitting multicast data to a plurality of mobile stations in a multicast group, the system comprising:

> a category manager configured to store a reception capability value showing a reception capability necessary for receiving multicast data in each

[1] E.g., specification, Fig. 5, p. 11, l. 20 - p. 13, l. 1. Claims 1 and 9 are also amended to incorporate the features of canceled Claim 7.

> of the mobile stations and a category corresponding to the reception capability;
>
> a reception capability collector configured to collect reception capability values of each of the mobile stations regardless of whether each of the mobile stations receives the multicast data, prior to transmission of the multicast data, wherein ***the reception capability value of each of the mobile stations is defined by at least one of a demodulation method, a reception buffer size, a processing capability, a decoding method, a interleaving length, a number of despreaders and a number of decoders***;
>
> a transmitter configured to transmit the multicast data using a transmission method....

Independent Claim 9, while directed to an alternative embodiment, is amended to recite similar features. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1 and 9.

As described in an exemplary embodiment at Figs. 2 and 5, and p. 7, l. 23 - p. 8, l. 18 and p. 11, l. 20 - p. 13, l. 1 of the specification, the base station 30 and/or radio network controller 25 (e.g. radio station 20) is configured to collect "reception capability values" of the mobile stations that reflect values that do not change with a propagation environment. In other words, the "capabilities" reported by the mobile stations and collected by the radio station are the same regardless of the quality of the communications channel between the mobile station and the radio station.

In rejecting the claimed features directed to the "reception capability collector," the Office Action relies on Sato.[2] Sato describes a method of providing a multicast service from an information delivery apparatus to wireless terminals through wireless routes.[3] The method described in Sato further includes transmitting, from the information delivery apparatus, a plurality of sets of multicast data, wherein the sets are identical with regard to contents, but differ in transmission conditions.

In rejecting the claimed features directed to the "reception capability collector," the Office Action specifically relies on paragraph [0060] of Sato. This cited portion of Sato

[2] Office Action, p. 4.
[3] Sato, Abstract.

describes that each wireless terminal 10 residing in the service areas Es of the wireless base station 20 use a control unit 13 to measure reception quality with regard to a free downlink channel. Each wireless terminal 10 then notifies the wireless base station 20 of the results of the measurement by attaching the measured results to a request signal transmitted to the wireless base station 20 for the purpose of requesting delivery service of a desired multicast group. The base station then controls transmission of the multicast data based on the received signal quality measurements.

Thus, Sato does appear to describe collecting reception quality of a downlink signal received at each of the base stations and assigning the reception quality to a category, but fails to teach or suggest collecting "***at least one of a demodulation method, a reception buffer size, a processing capability, a decoding method, a interleaving length, a number of despreaders and a number of decoders***," as required by amended independent Claims 1 and 9. Instead, Sato merely describes collecting reception quality values measured at the mobile stations, which clearly do not define any of the reception capability parameters corresponding to each mobile station, as outlined above.

As noted above, Claims 1 and 9 recite that reception capability values, which do not change according to propagation environment, etc., and that are preliminarily defined in each of the mobile stations, are collected and classified into categories. Sato, in contrast, describes that the collected reception measurements, which change according to the propagation environment and distance of the mobile station from the base station, are collected and then classified into categories. Therefore, as described in paragraph [0060], it is preferable in Sato that the base station collect reception measurements for each of the mobile stations when the mobile stations transmit the request for receiving the multicast data.

Accordingly, Sato merely describes that the base station collects signal reception measurements that are included in a request for the transmission of multicast data, and fails to

teach or suggest that the base station collects "reception capability values of each of the mobile stations ***regardless of whether each of the mobile stations receives the multicast data***, prior to transmission of the multicast data," which is also a feature required by amended independent Claims 1 and 9.

In rejecting the features directed to the parameters included in "reception capability value" as previously recited in Claim 7, the Office Action relies on Onoe, and asserts that the reference "teaches in page 1229, section 2.1.1, CPU capacities, and, in page 1235, section 2.4, buffer space consumption..." These cited portions of Onoe, however, merely describe that QoS levels of transmitted data may be specified according to CPU capacities, etc., but Onoe fails to teach or suggest collecting any of these values as "reception capability values" of a mobile station receiving the multicast, as claimed.

Lundby, another tertiary reference, describes collecting channel quality information of a plurality of mobile stations in a multi-cast group, and selecting an optimal transmission method corresponding to the worst channel quality among the collected channel quality information. Therefore, Lundby fails to cure the above noted deficiencies of Sato and Onoe

Therefore, Onoe, Lundby and Sato neither alone, nor in combination, teach or suggest a communication system for transmitting multicast data to a plurality of mobile stations in a multicast group that includes "a reception capability collector configured to collect reception capability values of each of the mobile stations ***regardless of whether each of the mobile stations receives the multicast data***, prior to transmission of the multicast data, wherein ***the reception capability value of each of the mobile stations is defined by at least one of a demodulation method, a reception buffer size, a processing capability, a decoding method, a interleaving length, a number of despreaders and a number of decoders***..." as recited in amended independent Claim 1.

Accordingly, Applicants respectfully request that the rejection of Claim 1 (and the claims that depend therefrom) under 35 U.S.C. § 103 be withdrawn. For substantially similar reasons, it is also submitted that independent Claim 9 (and the claims that depend therefrom) patentably define over Onoe, Lundby and Sato.

With regard to the rejection of Claims 3, 5 and 6 under 35 U.S.C. § 103 as unpatentable over Onoe, Lundby, Sato and Hundscheidt, it is noted that Claims 3, 5 and 6 ultimately depend from Claim 1, and are believed to be patentable for at least the reasons discussed above. Further, it is respectfully submitted that Hundscheidt fails to cure any of the above-noted deficiencies of Onoe, Lundby and Sato.

Accordingly, Applicants respectfully request that the rejection of Claims 3, 5 and 6 under 35 U.S.C. § 103 be withdrawn.

Independent Claim 10 (and Claims 11-12, which depend therefrom) were rejected under 35 U.S.C. §103(a) as unpatentable over Onoe in view of Lundby, Hundscheidt and Sainio. In response to this rejection, Applicants respectfully submit that amended independent Claim 10 recites novel features clearly not taught or rendered obvious by the applied references.

Independent Claim 10 recites a mobile station for receiving multicast data, the station comprising:

> a category memory configured to store a category to which a reception capability value of the mobile station belongs;
>
> a reception capability transmitter configured to ***transmit a reception capability value of the mobile station regardless of whether the mobile station receives the multicast data***, prior to transmission of the multicast data;
>
> a receiver configured to receive the multicast data transmitted using a plurality of transmission methods ***corresponding to reception capability values collected from mobile stations joining in a multicast group***; and
>
> a selector configured to ***select multicast data corresponding to the category stored in the category memory*** from among the received multicast data,
>
> wherein the category to which a reception capability value of the mobile station belongs is defined by at least one of a demodulation method, a

reception buffer size, a processing capability, a decoding method, a interleaving length, a number of despreaders and a number of decoders.

As an initial matter, Applicants note that the features in Claim 10 are directed to ***a mobile station for receiving multicast data*** that includes a "category memory", "reception capability transmitter", "receiver" and "selector." The Office Action appears to ignore the fact that the claimed features are included in a mobile station, instead relying on various functions of the distribution devices in Onoe, Lundby, Hundscheidt and Sainio to reject Claim 10. Applicants, therefore, respectfully request that the rejection of Claim 10 be withdrawn at least on these grounds.

Further, as noted above, independent Claim 10 is amended to recite that the mobile station includes "a reception capability transmitter configured to ***transmit a reception capability value of the mobile station regardless of whether the mobile station receives the multicast data***, prior to transmission of the multicast data."

As noted above, Lundby describes collecting channel quality information of a plurality of mobile stations in a multi-cast group, and selecting an optimal transmission method corresponding to the worst channel quality among the collected channel quality information. Thus, in Lundby, each of the mobile stations provide channel quality feedback with the objective being to receive the multicast data. Claim 10, on the other hand specifies that the mobile station "***transmits a reception capability value of the mobile station regardless of whether the mobile station receives the multicast data***." As noted above, the difference between the configuration recited in Claim 10, and transmitting a channel quality measurement as described in Lundby, is that the parameters defined as a "a reception capability value" in Claim 10 are predefined parameters that do not change as the propagation environment changes. Thus, these parameters can be transmitted in advance well before requesting to receive, or receiving, the multicast data. In a system such as Lundby, however, it is important that the channel quality measurements be transmitted with a multicast

transmission request so that the multicast transmission is controlled using the latest condition of the channel between the mobile station and the base station.

Further, none of Onoe, Hundscheidt or Sainio describe a process of transmitting a reception capability value from a mobile station, whatsoever, and fail to cure this above noted deficiency of Lundby.

Amended Claim 10 further recites that the mobile station includes "a receiver configured to receive the multicast data transmitted using a plurality of transmission methods ***corresponding to reception capability values collected from mobile stations joining in a multicast group***." Thus, Claim 10 specifies that the transmission methods used to transmit the data correspond to reception capability values collected from mobile stations.

In rejecting the features of Claim 10 directed to the receiver, the Office Action relies on Onoe. Onoe, however, fails to teach or suggest receiving reception capability values collected from the mobile stations, whatsoever, much less determining multicast transmission methods on the basis of such received data.

Further, Claim 10 recites that the mobile station includes "a category memory configured to store a category to which a reception capability value of the mobile station belongs... [and] a selector configured to ***select multicast data corresponding to the category stored in the category memory*** from among the received multicast data."

In rejecting the claimed features directed to the "selector," the Office Action appears to rely on p. 1234 of Onoe, which describes that intermediate nodes include QoS filters that filter data ultimately destined for downstream users. Therefore, these filters are not at ***a mobile station for receiving multicast data***, but instead appear to be located in intermediate network elements in between the device distributing the data and the recipient.

Accordingly, Onoe, Lundby, Hundscheidt and Sainio, neither alone, nor in combination, teach or suggest ***a mobile station for receiving multicast data***, which includes

"a category memory configured to store a category to which a reception capability value of the mobile station belongs... a reception capability transmitter configured to ***transmit a reception capability value of the mobile station regardless of whether the mobile station receives the multicast data***, prior to transmission of the multicast data ... a receiver configured to receive the multicast data transmitted using a plurality of transmission methods ***corresponding to reception capability values collected from mobile stations joining in a multicast group***... and a selector configured to ***select multicast data corresponding to the category stored in the category memory*** from among the received multicast data," as recited in amended independent Claim 10.

Accordingly, Applicants respectfully request that the rejection of Claim 10 (and claims that depend therefrom) under 35 U.S.C. § 103 be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1, 3 and 5-6 and 8-13 is definite and patentably distinguish over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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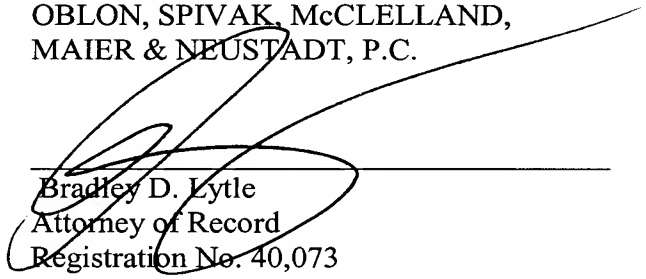

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